Table A-1 – West Whidbey Island: Current and Future Performance of Shoreline Ecological Functions – February 2013

The following table describes the existing performance of shoreline ecological functions, the ecological functions at risk and the level of alteration along Island County shorelines as described in the Shoreline Inventory and Characterization Report. Regulations and policies from the Island County SMP (Dec. 27, 2012) that protect ecological functions are identified along with programmatic opportunities from the Restoration Plan (Dec. 27, 2012). The future performance is then assessed based on the type and amount of expected development (*foreseeable development*) in the shoreline, the level of protection the proposed SMP regulations provide, and restoration opportunities. Specific opportunities for restoration are outlined in the Restoration Plan. Current performance of nearshore processes are ranked "least," "less," "moderate," and "most" depending on the level of degradation along the shoreline (PSNERP, 2010). Future performance is ranked "No Cumulative Impacts" and "Potential for Cumulative Impacts" to shoreline ecological functions depending on the expected changes from existing conditions with implementation of the SMP over the next twenty years.

Existing Conditions by Reach Shoreline Inventory and Characterization Report	Current Performance PSNERP, 2010 and Shoreline Alterations Impacting Processes and Functions	Foreseeable Development See Chapter 3 of report for methodology	Ecological Functions at Risk	SMP Provisions Addressing Functions at Risk: Protection (Proposed SMP regulations with reference to SMP section number) Restoration Plan	Anticipated Future Performance
Aquatic Summary of Conditions: Nearshore aquatic habitats and associated coastal lagoons provide habitat that supports a broad assemblage of fish and wildlife species including forage fish populations and habitat for anadromous salmon. Marine nearshore areas are probably utilized for rearing and as migratory corridors for anadromous salmonids. The entire nearshore of West Whidbey is designated as Critical Habitat for Chinook salmon; and the Cultus Bay shoreline is designated Critical Habitat for bull trout. The aquatic areas of West Whidbey Island support red sea urchin habitat, and geoduck, Dungeness crab, and hardshell clams. Eelgrass and kelp areas and areas supporting forage fish are mapped intermittently throughout the shoreline. Indicators: See below. Reaches: All areas waterward of the ordinary high water mark are designated Aquatic except areas designated High Intensity.	PSNERP Degradation Scores: Refer to Map 17 from the Shoreline Inventory and Characterization report. No degradation: 0% Least degraded: 39% Less degraded: 49% Moderately degraded: 7% More degraded: 5%	Residential docks in Lagoon Point and Sandy Hook canal communities. Potential development of new public access points.	Water Quality: Low risk due to existing limited physical alteration within aquatic areas, as well as protections provided contiguous wetland areas (coastal lagoons). Primary pathway of degradation would occur through changes to contributing basin (land cover / land use changes) outside of shoreline jurisdiction. Water and Sediment Movement: Moderate risk due to additional shoreline armoring and changes in contributing basin due to increased impervious cover. Habitat: Direct impacts limited due to minimal extent of permitted and foreseeable inwater and over-water uses. Aquatic habitat degradation susceptible to water quality inputs from contributing basin, especially in enclosed aquatic areas which receive inputs from residential and/or agricultural areas. Aquatic (subtidal and intertidal) and lagoon habitats susceptible to SLR. Vegetation: Low risk. Limited development potential due to existing and foreseeable use within aquatic areas. Long term risk of SLR resulting in ecological changes, especially threatening subtidal, intertidal aquatic vegetation and lagoon communities. Hydrology (Water Quantity): SLR and coastal flooding high risk in some areas. Saltwater intrusion low risk.	Protection Allowed uses and modifications: Residential Uses: Accessory beach access structures on private lots, subdivision of tidelands for public acquisition or preservation purposes only. Beach access structures: shoreline conditional use permit (CUP) Industrial Uses: Port facilities, water-dependent industry, water-related industry, log storage (only where permitted in adjoining shoreland SED) Boating and Related Facilities: Boat launches, private and public piers, floats and docks, mooring buoys, float plane bases and docks, marinas (except where upland is designated Natural) CUP Scientific, educational, historic, or archaeological uses: Water-dependent or -related uses CUP Resource Management and Extraction: Aquaculture, in-water, including mechanical or hydraulic harvest of shellfish CUP Transportation: Ferry terminals and bridges and culverts CUP Utilities: Production facilities, tidal and wave energy production facilities, accessory utilities, and below and above ground transmission Recreational Uses: Marine campgrounds, marine trails, undeveloped natural reserves/parks, unpaved non-vehicular trails and paths, passive recreation, and public parks Breakwaters: Limited to support of water-dependent uses, public access, or other public use Shoreline stabilization: Structural and non-structural and shoreline restoration/beach enhancement Dikes: CUP Grading: CUP; permitted for restoration/enhancement projects Groins and jetties; for restoration or enhancement of natural resources only or as part of an approved marina or for navigational purposes Dolphins: as part of a water-dependent use Prohibited uses and modifications: Residential Uses: Non-water-dependent industry Boating & Related Facilities: Marinas (where upland is designated Natural) Scientific, educational, historic, or archaeological uses; Non-water-related uses Resource Management and Extraction: Forest practices and mining Transportation: Parking lots, railroads, new and existing vehicular routes and facilities Recreational Uses: Campgrounds, s	No Cumulative Impacts No cumulative impacts due to limited extent of area where uses are permitted, restrictions on where in-water and/or overwater use is permitted, as well as use restrictions and development standards that ensure development and shoreline modification will only occur where appropriate, and in a fashion that impacts to adjacent aquatic areas will be mitigated.

Existing Conditions by Reach Shoreline Inventory and Characterization Report	Current Performance PSNERP, 2010 and Shoreline Alterations Impacting Processes and Functions	Foreseeable Development See Chapter 3 of report for methodology	Ecological Functions at Risk	SMP Provisions Addressing Functions at Risk: Protection (Proposed SMP regulations with reference to SMP section number) Restoration Plan	Anticipated Future Performance
				Additional standards ICC 17.05A.090.N6: Dock and pier components that may come into contact with the water must consist of non-toxic materials. Water quality ICC 17.05A.100.J: Subdivisions and individual residential structures must be designed to ensure that surface runoff does not pollute adjacent waters or cause soil or beach erosion either during or after the construction phase. Hydrology ICC 17.05A.090.A: The use of chemicals to control invasive aquatic weeds is prohibited, except when applied by a licensed pesticide applicator and approved for aquatic use. Shoreline Vegetation ICC 17.05A.090.C.13: Critical saltwater habitat protections. Habitat ICC 17.05A.090.C.13: Critical saltwater habitat protections. Habitat ICC 17.05A.010.C: Beach access structures that extend waterward of the OHWM are limited to a small pier or pile-supported pedestrian landing platform of 25 sq. ft. or less. Habitat ICC 17.05A.100.B: Aquaculture must avoid impacts to eelgrass and macroalgae. Floating aquaculture limited to 40 surface acres. Fish net pens may only include native species. Geoduck may not result in significant clearing and grading. Aquatic habitat impacts must be minimized or mitigated. Habitat ICC 17.05A.100.D.4: Mooring buoys must avoid critical saltwater habitats. Buoys must use state-approved designs that have minimal adverse effects on aquatic ecosystem and fish. See standards for docks, piers, floats, and boat launches below. Habitat Restoration Restoration opportunities include numerous in-water structure and debris removals, plus one opportunity to restore tidal exchange. WW08 Remove 12 creosote piles cross shore WW08 Remove 12 creosote piles of dilapidated house WW08 Remove 17 creosote piles WW08 Remove 4 creosote piles in subtidal WW01 Remove concrete rubble from intertidal and bank toe WW01 Remove concrete rubble revetment	

Current Performance SMP Provisions Addressing Functions at Risk: **Existing Conditions by Reach** PSNERP. 2010 and **Foreseeable Development** Anticipated **Ecological Functions** Protection (Proposed SMP regulations with reference to Shoreline Inventory and Characterization Report See Chapter 3 of report for **Future** Shoreline Alterations at Risk SMP section number) **Performance** Impacting Processes and methodology Restoration Plan **Functions** Natural **No Cumulative Protection Summary of Conditions: PSNERP Degradation Scores:** Vacant lands: 30 ac (1%) Allowed uses and modifications: Impacts Water Quality: Development The Natural designation has been assigned to major segments of Subdividable lands: 83 ac (3%) No degradation: 0% Residential Uses: Single-family uses, accessory dwelling units (CUP) reduces soil infiltration and New residential unmodified feeder bluffs, Cranberry Lake and its associated wetlands, Potential residential units: 169 accessory structures, accessory beach access structures (CUP) on and the least modified portions of several coastal lagoons along the Least degraded: 39% increases potential for development subject private lots, and subdivisions nitrogen, phosphorus, and West Whidbey shorelines. In many cases, the shoreline jurisdiction to greatest buffers Less degraded: 49% Boating and Related Facilities: Public boat launches, private and public hydrocarbons. does not reach the top of the bluff, or encompasses only a small area and setbacks to piers, floats and docks (CUP) atop the bluff. Moderately degraded: 7% minimize adverse Scientific, educational, historic, or archaeological uses: Water-**Water and Sediment** dependent or -related uses impacts. Impervious The northern third of West Whidbey is within one large net shore-drift More degraded: 5% **Movement:** Rapid erosion Resource Management and Extraction: Low-intensity agriculture and cell with northward drift influenced by wind and waves. The bluffs on coverage restriction Extensive areas of West Whidbey rates for bluff backed beaches forest practices these shores generally incur the highest erosion rates in the county. imposed to address Natural shorelines are generally and barrier beaches could be Transportation: Parking lots associated with water-dependent uses, The northern end includes Cranberry Lake and Deception Pass State stormwater impacts. unaltered, both along the waters' accelerated with faster existing public vehicular routes and facilities, bridges, and culverts No cumulative edges and throughout jurisdiction. stormwater flows. Utilities: Production facilities, tidal and wave energy production facilities, impacts due to low The southern two-thirds of West Whidbey (Admiralty Inlet) shorelines Majority of areas are publically accessory utilities, and below and above ground transmission (CUP) of Whidbey Island form a complex shoreline with several embayments. owned and managed park lands potential for Recreational Uses: Marine campgrounds, marine trails, undeveloped **Habitat:** Aquatic habitat There are numerous drift cells and associated depositional landforms predominantly managed as open development within natural reserves/parks, unpaved non-vehicular trails and paths, passive degradation susceptible to including barrier lagoons and estuaries. space. Limited areas of rural majority of SED, recreation, and public parks (CUP) water quality inputs from residential development set well Tourist Accommodations: Bed and breakfast inns, country inns marine shoreline contributing basin, especially Seven coastal lagoons are designated Natural along West Whidbey back (200 feet or more) from the Shoreline stabilization: Structural (for existing residential structures at and critical areas in low-lying Natural areas Island's shoreline, including Swan Lake and adjoining wetland areas. shoreline behind coastal bluffs. risk from erosion) and non-structural and shoreline restoration/beach which receive inputs from Perego's Lagoon (a closed barrier lagoon). Crockett Lake and buffers, limited enhancement (CUP) Several of the Natural designated residential areas. Intact areas adjoining wetland areas. Admiral's Lagoon, Hancock Lake (a large. allowed uses and Grading: (CUP) lagoons contain derelict piles, of riparian habitat protected, intact open coastal lagoon), and Deer Lagoon (partially diked adjoining detailed standards hydrologic alterations, and areas of as large majority of associated <u>Dredging:</u> Restoration or enhancement of natural resources only (CUP) Useless Bay). All coastal lagoons are mapped as waterfowl to ensure only Groins and jetties as part of an ecological restoration project (CUP) fill associated with historic uses wetland and riparian areas are concentration areas except for Perego's Lagoon. limited and Prohibited uses and modifications: (Crockett Lake, Deer Lagoon, protected as public open appropriate The Natural designation also encompasses about two-thirds of the Residential Uses: Mobile home parks and multi-family uses Swan Lake). space. Lagoon, bluff, stream mouths reaching the marine shoreline on West Whidbey, some development and Commercial Uses: Water-oriented and non-water-oriented uses backshore, beach, nearshore, of which drain through lakes or lagoons before entering marine waters. Industrial Uses: Port facilities, water-oriented industry, log storage, and use would occur. and subtidal habitats non-water-dependent industry susceptible to SLR. Protections Nearshore aguatic habitats and associated coastal lagoons provide Boating & Related Facilities: Float plane bases, float plane docks, and extending outside of habitat that supports a broad assemblage of fish and wildlife species shoreline including forage fish populations and habitat for anadromous salmon. Shoreline Vegetation: Low Scientific, educational, historic, or archaeological uses: Non-water-Marine nearshore areas are probably utilized for rearing and as jurisdiction, risk. Limited development related uses migratory corridors for anadromous salmonids. The entire nearshore is including stormwater potential due to existing use Resource Management and Extraction: Mining and aquaculture on-land designated as Critical Habitat for Chinook salmon; and the Cultus Bay and protection as public open and surface water activities/structures/processing shoreline is designated Critical Habitat for bull trout. space. Long term risk of SLR standards, will <u>Transportation</u>: Parking lots (except as permitted above), ferry resulting in ecological terminals, new public vehicular routes and facilities, and railroads provide protection The aquatic areas of West Whidbey Island support red sea urchin changes, especially Recreational Uses: Campgrounds, scenic overlooks, & RV parks (i.e. habitat, and geoduck, Dungeness crab, and hardshell clams. Eelgrass against cumulative threatening aquatic and and kelp areas and areas supporting forage fish are mapped private uses) impacts to lagoon / wetland vegetation in Tourist Accommodations: Hotels and motels intermittently throughout the shoreline. hydrologic and low-lying Natural areas. Crockett Lake and Deer Lagoon are designated as Important Bird habitat functions. Shoreline buffers, setbacks, maximum impervious surface and Areas (IBAs) by the Audubon Society. The brackish lagoons, adjacent critical areas protection: marine beaches, associated wetlands, and surrounding riparian and Hydrology (Water Quantity): Shoreline Marine Buffer: 125 feet upland areas provide significant habitat for numerous bird species, Low risk throughout all public Steep Slope Buffer: 50 feet including high densities of autumn migrating shorebirds and raptors. owned park areas. Limited Shoreline Setback: 25 feet Winter habitat is provided for bald eagles and duck species. The development potential due to Minimum Lot Width: 150 ft. Audubon Society has documented 213 bird species in the Crockett existing use and protection as Maximum Impervious Surface: 10 percent Lake area. public open space. Associated Critical Area Buffers: Landslide Hazard Area or Steep Slope (50-100 Publicly owned and managed areas include the Smith and Minor wetland areas foot setback); Streams (50-150 foot buffer); Wetlands (20-300 foot Islands reserves, the Whidbey Island Naval Air Base, and three state (coastal lagoons and buffer); Nesting sites and territory (200-1000 foot buffers); Washington freshwater features) and Natural Heritage Program Areas (50 foot buffers) Residential uses are almost all located outside of the shoreline required buffers further limit jurisdiction; only 40 residential structures located within Natural SED.

There are no mapped overwater structures and limited armoring.

Indicators:

Armoring: 0.4 mi (1.2%)

development that could impact

shoreline vegetation. Primary

pathway of degradation would

contributing basin (land cover)

land use changes) outside of

impacts of SLR; these result in

occur through changes to

shoreline jurisdiction, and

Additional standards

and liquid waste. Hydrology, Water Quality

ICC 11.03 (Stormwater and Surface Water) Hydrology, Water Quality

ICC 17.05A.090A: General Shoreline Development standards limiting

ICC 17.05A.100.J: New residential development and subdivisions must

alteration of natural drainage features and prohibiting release of solid

be designed and built in a manner that avoids the need for structural

A1-3

Existing Conditions by Reach Shoreline Inventory and Characterization Report	Current Performance PSNERP, 2010 and Shoreline Alterations Impacting Processes and Functions	Foreseeable Development See Chapter 3 of report for methodology	Ecological Functions at Risk	SMP Provisions Addressing Functions at Risk: Protection (Proposed SMP regulations with reference to SMP section number) Restoration Plan	Anticipated Future Performance
Culverts: 11 Eelgrass: 2 occurrences Coastal Floodplain: 1,217 ac (49%) Forest Cover: 265 acres (11%) Impervious: 101 acres (4%) Overwater Structures: None WDFW PHS – Priority Bird Species: 8 occurrences of bald eagle, 6 occurrences of black oystercatcher, and 1 occurrence of purple Martin, and 4 colonies of Great blue heron Protected Lands: 1,134 (46%) Riparian Vegetation: 84% Road Lengths: 1.5 mi Wetlands: 1,863 acres (75%) Reaches: Reach 1 (45 acres) Reach 2 (250 acres) Reach 3 (141 acres) Smith and Minor Islands (24 acres) Reach 4 (1120 acres) Reach 5 (128 acres) Reach 6 (108 acres) Reach 7 (384 acres) Reach 8 (94 acres) Reach 9 (197 acres)			moderate risk within low-lying shoreline areas.	shore armoring. Hydrology, Water and Sediment Movement ICC 17.05A.100.C: Beach access structures are prohibited on exceptional marine feeder bluffs. Beach access structures are not allowed if public beach access is available within 500 feet. Hydrologic ICC 17.05A.100.J: Joint use beach access is preferred in areas near unstable slopes, feeder bluffs or other geologically hazardous areas. Must be located in a manner that does not require shoreline stabilization. Hydrology, Water and Sediment Movement ICC 17.05A.090.J: Subdivisions containing marshes, swamps, lagoons, portions of floodplains, or similar wetlands must use those areas only for the purposes of parks, open space, or recreation facilities. Hydrology and Habitat ICC 17.05A.090D: Native vegetation within shoreline buffers must be maintained or, where lacking, enhanced. As a general guideline, the percentage of buffer to be enhanced should equal the percentage increase in impervious lot coverage on the site. Shoreline Vegetation ICC 17.05A.090N: Low impact development techniques must be considered, materials that come into contact with water must be composed of non-toxic materials. Water Quality Restoration Restoration opportunities include: WW05 Remove 35 creosote piles from failing wall WW02 Remove concrete debris (armoring) to the south of the row of shoreline residences fronting Swan Lake. WW02 Remove tide gate and associated armoring that restricts tidal exchange between Swan Lake and the marine shoreline	

Existing Conditions by Reach

Shoreline Inventory and Characterization Report

Current Performance PSNERP, 2010 and Shoreline Alterations Impacting Processes and Functions

Foreseeable Development See Chapter 3 of report for methodology Ecological Functions at Risk

SMP Provisions Addressing Functions at Risk: Protection (Proposed SMP regulations with reference to SMP section number) Restoration Plan

Anticipated Future Performance

Rural Conservancy

Summary of Conditions:

The Rural Conservancy (RC) designation has been assigned to segments of feeder bluffs with limited development, some low bank areas where residential development is set well back from the shoreline and wetland areas that have significant modifications, including ongoing agriculture and some residential development. In some bluff, the shoreline jurisdiction does not reach the top of the bluff, or encompasses only a small area atop the bluff.

The northern third of West Whidbey is dominated by the Naval Air Base, which is designated RC and is maintained with little riparian vegetation adjacent to the airstrip. The shores of West Whidbey are largely encompassed within one large net shore-drift cell with northward drift heavily influenced by wind and waves.

The southern two-thirds of West Whidbey (Admiralty Inlet) shorelines of Whidbey Island form a complex shoreline with numerous drift cells and associated depositional landforms. The RC designation covers numerous small segments, with the majority being around Keystone Harbor, Mutiny Bay, and Useless Bay, including wetlands associated with Useless Bay shorelines. The RC designation also applies to one barrier lagoon, Bush Point, which is highly modified due to surrounding residential development. Admiral's Lagoon is mapped as a waterfowl concentration area.

The Admiralty Inlet shorelines of Whidbey Island form a complex, crenulated shoreline with more embayments. There are numerous net shore-drift cells and associated depositional landforms. Five stream mouths reach the marine shorelines that are designated RC.

Keystone Harbor and Bush Point Lagoon are waterfowl concentration areas. A large wetland complex draining several mapped salmonid streams is associated with the RC shoreline at Useless Bay, although the wetland is largely in agricultural use; the marine area fronting this wetland area is a documented area of juvenile salmonid rearing within Island County (Reach 8).

Marine nearshore areas are probably utilized for rearing and as migratory corridors for anadromous salmonids. The entire nearshore of West Whidbey is designated as Critical Habitat for Chinook salmon. The aquatic areas of West Whidbey Island support geoduck and Dungeness crab. Eelgrass and kelp areas and areas supporting forage fish are mapped intermittently throughout the shoreline.

Land use includes Fort Casey State Park and the Naval Air Station Whidbey Island. Residential uses on the shoreline facing the Strait of Juan de Fuca are mostly located between Point Partridge and Swan Lake. Residential development on Admiralty Inlet shorelines occurs behind high bluff areas and along low-banks.

Areas of modification are mostly along Admiralty Inlet. Where shoreline residential development occurs in front of shoreline slopes or in lower bank areas; bulkheads and other armoring are prevalent. There are several overwater structures mapped by DNR, but just two structures that are still apparent in aerial photos of the RC designated shorelines in West Whidbey.

Indicators:

Armoring: 1.1 mi (6%) Eelgrass: 1 occurrence

Culverts: 38

Coastal Floodplain: 371 ac (38%) Forest Cover: 101 acres (10%) Impervious: 157 ac (16%)

PSNERP Degradation Scores:

No degradation: 0% Least degraded: 65%

Less degraded: 35%

Moderately degraded: 0%

More degraded: 0%

Shorelines are primarily unmodified. Rural residential shoreline development is the primary use (occurring in 'Rural' zoning areas), with development occurring landward of high bank shorelines. Many Rural Conservancy designated areas are minimally altered within 200 feet or more of the shoreline.

Vacant lands: 25 ac (3%)
Subdividable lands: 80 ac (8%)

Potential residential units: 224

New residential development and some potential housing redevelopment is anticipated resulting in an increase of septic systems and impervious cover accelerating stormwater runoff.

Water Quality: Development reduces soil infiltration and increases potential for nitrogen, phosphorus, and hydrocarbons.

Water and Sediment

Movement: Rapid erosion rates for bluff backed beaches and barrier beaches could be accelerated with faster stormwater flows.

Habitat: Direct impacts primarily limited to upland forest habitat (moderate to high risk for this habitat type); however land cover alterations and conversion to residential development may indirectly alter nearshore environments. Significant amounts of new residential shoreline armoring not expected.

Shoreline vegetation:

Moderate to high risk. Riparian loss could occur thru potential future subdivision and infill residential development; development will maintain a riparian buffer, however will likely result in forest loss in areas outside of the buffer. Additional alteration associated with private shoreline access and view maintenance. Continued introduction and competition from invasive vegetation.

Hydrology (Water Quantity):

Low to moderate risk.
Substantial potential for additional shoreline residential development – conversion of forested land cover to residential has potential to impact hydrologic conditions.
Additional conversion to agricultural use not anticipated

Protection

Allowed uses and modifications:

Residential Uses: Single-family uses, accessory dwelling units (CUP), accessory structures, accessory beach access structures on private lots, and subdivisions

<u>Boating and Related Facilities</u>: Public boat launches, private and public piers, floats and docks, float plane docks, and marinas (CUP)

Low intensity Agriculture: CUP Aquaculture (On-land): CUP

<u>Scientific, educational, historic, or archaeological uses</u>: Water-oriented and non-water-related uses (CUP)

<u>Transportation</u>: Ferry terminals, new and existing public vehicular routes and facilities, bridges, and culverts

Utilities: All types

Recreational Uses: Marine campgrounds, marine trails, undeveloped natural reserves/parks, unpaved non-vehicular trails and paths, passive recreation, and public parks

<u>Tourist Accommodations</u>: Hotels, motels, and inns (CUP) <u>Shoreline stabilization</u>: Structural (CUP) and non-structural and shoreline restoration/beach enhancement

<u>Dikes, Grading, Dredging:</u> (CUP) For restoration or marina only <u>Groins and jetties</u> for restoration or enhancement of natural resources, as part of an approved marina, or for navigational purposes (CUP) **Prohibited uses and modifications:**

Residential Uses: Mobile home parks and multi-family uses Commercial Uses: Except tourist accommodations

Commercial Uses: Except tourist accommodation Industrial Uses: All types

Industrial Uses: All type

Boating & Related Facilities: Float plane bases Resource Management and Extraction: Mining Transportation: Parking lots and railroads

Recreational Uses: Campgrounds, scenic overlooks, & RV parks (i.e.

private uses) Groins and jetties

Shoreline buffers, setbacks, maximum impervious surface and critical areas protection:

Shoreline Marine Buffer: 75 feet

<u>Steep Slope Buffer</u>: 30 feet for slopes greater than 40%, 50 feet for exceptional feeder bluffs

Shoreline Setback: 25 feet Minimum Lot Width: 150 ft.

Maximum Impervious Surface: 10 percent

<u>Critical Area Buffers</u>: Landslide Hazard Area or Steep Slope (50-100 foot setback); Streams (50-150 foot buffer); Wetlands (20-300 foot buffer); Nesting sites and territory (200-1000 foot buffers); Washington Natural Heritage Program Areas (50 foot buffers)

Additional standards

ICC 11.03 (Stormwater and Surface Water) Water quality and Hydrology

ICC 17.05A.090A: General Shoreline Development standards limiting alteration of natural drainage features and prohibiting release of solid and liquid waste. *Water Quality*

ICC 17.05A.100.J: New residential development and subdivisions must be designed and built in a manner that avoids the need for structural shore armoring. *Hydrology; Water and Sediment Movement*

ICC 17.05A.100.J 1: All residential use and development managed to avoid damage to shoreline and prevent cumulative impacts. *All*

ICC 17.05A.100.J.2: Subdivision subject to maximum density limits. *All* ICC 17.05A.100.C: Beach access structures are prohibited on exceptional marine feeder bluffs. Beach access structures are not

No Cumulative Impacts

No cumulative impacts due to required marine shoreline and critical areas buffers, restrictions on allowed uses and detailed standards to ensure only appropriate development and use will occur. Structural shoreline stabilization only allowed for necessary and imminent protection of existing structures. New residential development subject to buffers and setbacks to minimize adverse impacts. Impervious coverage restriction imposed to address stormwater impacts with LID techniques utilized to reduce stormwater flows. **Protections** extending outside of shoreline jurisdiction, including stormwater and surface water standards, provide additional protection.

Existing Conditions by Reach Shoreline Inventory and Characterization Report	Current Performance PSNERP, 2010 and Shoreline Alterations Impacting Processes and Functions	Foreseeable Development See Chapter 3 of report for methodology	Ecological Functions at Risk	SMP Provisions Addressing Functions at Risk: Protection (Proposed SMP regulations with reference to SMP section number) Restoration Plan	Anticipated Future Performance
Overwater Structures: 4 (per DNR) WDFW PHS – Priority Bird Species: Bald eagle (3 occurrences), Osprey (1 occurrence) Protected Lands: 214 ac (22%) Riparian Vegetation: 67% Road Lengths: 4.1 mi Wetlands: 589 ac (61%) Reaches: Reach 1 (110 acres) Reach 2 (110 acres) Reach 3 (2 acres) Reach 4 (122 acres) Reach 5 (8 acres) Reach 6 (105 acres) Reach 7 (269 acres) Reach 8 (248 acres) Shoreline Residential				allowed if public beach access is available within 500 feet. <i>Hydrology</i> ICC 17.05A.100.J: Joint use beach access is preferred in areas near unstable slopes, feeder bluffs or other geologically hazardous areas. Must be located in a manner that does not require shoreline stabilization. <i>Hydrology</i> ICC 17.05A.090D: Native vegetation within shoreline buffers must be maintained or, where lacking, must be enhanced. As a general guideline, the percentage of buffer to be enhanced should equal the percentage increase in impervious lot coverage on the site. <i>Shoreline Vegetation</i> ICC 17.05A.090K: Native vegetation within shoreline jurisdiction should be retained. If removal is necessary, it should be minimized and mitigated. If non-native is removed, it should be replaced with native vegetation. Tree topping is prohibited. <i>Shoreline Vegetation</i> ICC 17.05A.090H: Where buffer enhancement is required, buffer areas must be enhanced with native species, noxious weeds and impervious surfaces must be removed from the enhanced buffer, and 90% vegetative cover achieved within 5 years. <i>Habitat; Water Quality</i>	
Summary of Conditions: Including SR-Canal Community and SR-Historic Beach Community The Shoreline Residential designation is applied to 6 reaches of the West Whidbey Shoreline that were generally developed prior to the SMA and in many cases were platted nearly 100 years ago. Lots are typically small and houses close together and close to the water. These lots are typically low bank and the lots often have some form of shoreline armoring, although some high bank lots are included. Several of these old beach communities have been designated Shoreline Residential-Historic Beach Community with reduced buffers and setbacks. Lagoon Point and Sandy Hook are designated Shoreline Residential- Canal Community, indicating they were developed with man-made, dredged channels and include an inner harbor that contains numerous private docks and retention walls (bulkheads). Nearshore aquatic habitats support a broad assemblage of fish and wildlife species including forage fish populations and are probably utilized for rearing and as migratory corridors for anadromous salmonids. The entire nearshore extent of the Whidbey's shorelines is designated as Critical Habitat for Chinook salmon; and the Cultus Bay shoreline is designated Critical Habitat for bull trout. Eight stream mouths reach the marine shorelines in SR designated shorelines on West Whidbey. The marine aquatic areas of West Whidbey support geoduck, Dungeness crab, and hardshell clams. Eelgrass and kelp areas and areas supporting forage fish are mapped intermittently throughout the shoreline. Admiral's Lagoon is mapped as a waterfowl concentration area. Indicators: Armoring (% of shoreline): 2.6 mi (17%) Eelgrass: None mapped Culverts: 52 Coastal Floodplain: 224 ac (62%) Forest Cover: 13 ac (4%) Impervious: 89 ac (25%) Overwater Structures: 141	PSNERP Degradation Scores: No degradation: 0% Least degraded: 26% Less degraded: 54% Moderately degraded: 9% More degraded: 10% Small lot (~1/4 acre) residential shoreline development is the primary use. Significant areas of low bank development with existing hard armoring. Land cover substantially altered (limited forest cover) both within 'buffer' / shoreline setback areas and throughout shoreline jurisdiction.	Vacant lands: 15 ac (4%) Subdividable lands: 5 ac (1%) Potential residential units: 85 Potential for redevelopment of existing piers and docks and bulkheads at Lagoon Point and Sandy Hook canal communities. Limited potential for infill of the Historic Beach Communities because they are primarily built-out. Potential for continuing redevelopment with larger building footprints and heights.	Water Quality: Development reduces soil infiltration and increases potential for nitrogen, phosphorus, and hydrocarbons. Water and Sediment Movement: Rapid erosion rates for bluff backed beaches and barrier beaches could be accelerated with faster stormwater flows. Habitat: Aquatic habitats threatened by water quality degradation – associated with untreated stormwater, failing and/or high density of septic systems, illegal dumping, and normal use of chemicals in residential landscaping. Restrictions on shoreline armoring and redevelopment of private residential piers should limit future degradation associated with these structures (no new private residential piers / docks are anticipated). Shoreline Vegetation: Low risk for impact to riparian habitat – some opportunity for additional impact through redevelopment and encroachment from existing uses; however little intact shoreline vegetation remains. Hydrology (Water Quantity): Moderate risk. Moderate potential for infill development within shoreline jurisdiction	Protection Allowed uses and modifications: Residential Uses: Single-family and multi-family uses, accessory dwelling units, accessory structures, accessory beach access structures on private lots, and subdivisions Commercial Uses: Water-oriented commercial, non-water-oriented commercial if part of a mixed-use development with a water-dependent use Boating and Related Facilities: Boat launches, private and public piers, floats and docks, float plane bases and docks, and marinas (CUP) Scientific, educational, historic, or archaeological uses: Water-oriented and non-water-related uses (CUP) Resource Management and Extraction: Low intensity agriculture and forest practices Transportation: Parking lots, new and existing vehicular routes and facilities, bridges, and culverts (CUP) Utilities: All types some subject to a CUP Recreational Uses: Marine campgrounds, marine trails, undeveloped natural reserves/parks, unpaved non-vehicular trails and paths, passive recreation, and public parks Tourist Accommodations: Hotels & motels (CUP), and inns Shoreline stabilization: Structural (CUP) and non-structural and shoreline restoration/beach enhancement Dikes (CUP) Grading and Dredging Groins and jetties for restoration or enhancement of natural resources, as part of an approved marina, or for navigational purposes (CUP) Prohibited uses and modifications: Residential Uses: Mobile home parks Commercial Uses: Non-water-oriented commercial (except tourist accommodations) Industrial Uses: All types Resource Management and Extraction: Aquaculture on land activities/structures/processing and mining Transportation: Ferry terminals and railroads Recreational Uses: Campgrounds, scenic overlooks, & RV parks (i.e. private uses) Groins and jetties (except as permitted above) Dolphins	No Cumulative Impacts No cumulative impacts due to existing degraded ecological functions and potential for improvement as new development meets SMP buffer, setback, and use standards (including mitigation). Heights restricted to maximum 35 feet, but may partially block some existing views. Structural shoreline stabilization only allowed for necessary and imminent protection of existing structures. New residential development subject to buffers and setbacks to minimize adverse impacts. Impervious coverage restriction imposed to address stormwater impacts.

Existing Conditions by Reach Shoreline Inventory and Characterization Report	Current Performance PSNERP, 2010 and Shoreline Alterations Impacting Processes and Functions	Foreseeable Development See Chapter 3 of report for methodology	Ecological Functions at Risk	SMP Provisions Addressing Functions at Risk: Protection (Proposed SMP regulations with reference to SMP section number) Restoration Plan	Anticipated Future Performance
WDFW PHS – Priority Bird Species: Bald eagle (1 occurrence) Protected Lands: 6 ac (2%) Riparian Vegetation: 55% Road Lengths: 8.9 mi Wetlands: 35 ac (10%) Reaches: Reach 2 (21 acres) Reach 4 (31 acres) Reach 6 (160 acres) Reach 7 (62 acres) Reach 8 (29 acres) Reach 9 (58 acres)	Punctions		due to existing pattern (relatively few undeveloped lots).	Shoreline buffers, setbacks, maximum impervious surface and critical areas protection: Shoreline Marine Buffer: 30 feet; 0 feet for Lagoon Point and Sandy Hook canal communities (SRCC); 20 ft. Historic Beach Community (SRHBC) Steep Slope Buffer: 30 feet for steep slope buffers; 0 feet for Lagoon Point and Sandy Hook canal communities; N/A Historic Beach Community (SRHBC) Shoreline Setback: 45 feet; 40 feet for Lagoon Point and Sandy Hook canal communities; 10 ft. Historic Beach Community (SRHBC) Maximum Impervious Surface: 30 percent; 40 percent for Lagoon point and Sandy Hook canal communities; N/A Historic Beach Community (SRHBC) Maximum Impervious Surface: 30 percent; 40 percent for Lagoon point and Sandy Hook canal communities; N/A Historic Beach Community (SRHBC) Minimum Lot Width: 60 ft. for SR and SRCC Critical Area Buffers: Landslide Hazard Area or Steep Slope (50-100 foot setback); Streams (50-100 foot buffer); Wetlands (20-300 foot buffer); Nesting sites and territory (200-1000 foot buffers); Washington Natural Heritage Program Areas (50 foot buffers) Additional standards ICC 11.03 (Stormwater and Surface Water) Water and Sediment Movement, Water Quality ICC 17.05A.090A: General Shoreline Development standards limiting alteration of natural drainage features and prohibiting release of solid and liquid waste. Water and Sediment Movement, Water Quality ICC 17.05A.100.J: New residential development and subdivisions must be designed and built in a manner that avoids the need for structural shore armoring. Hydrology, Water and Sediment Movement ICC 17.05A.100.J: Beach access structures are prohibited on exceptional marine feeder bluffs. Beach access reprohibited on exceptional marine feeder bluffs or other geologically hazardous areas. Must be located in a manner that does not require shoreline buffers must be maintained or, where lacking, must be enhanced. As a general guideline, the percentage of buffer to be enhanced should equal the percentage increase in impervious to coverage on the site. Shoreline	
				construction phase. <i>Water and Sediment Movement, Water Quality</i> ICC 17.05A.090.N: Herbicides, fungicides, pesticides, and fertilizers	

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				must not be applied within 25 feet of a shoreline of the state except by a qualified professional. Water Quality, Habitat ICC 17.05A.090N: Low impact development techniques must be considered, materials that come into contact with water must be composed of non-toxic materials. Water Quality, Habitat ICC 17.05A.100D: Private boat launches allowed only when public launches are unavailable within 1 mi. Rail and track systems preferred. Mooring buoys must avoid critical saltwater habitats. Water and Sediment Movement, Habitat ICC 17.05A.110. A. 1d: New development that would require shoreline stabilization which causes significant impacts to adjacent or down-current properties and shoreline areas is prohibited. Water and Sediment Movement ICC 17.05A.110.A. 1h: Structural shoreline stabilization is prohibited for the purposes of leveling or extending property or creating or preserving residential lawns, yards, or landscaping. Habitat, Water Quality, Water and Sediment Movement ICC 17.05A.110.B: Single-family residential docks, floats and piers approved only if existing shared, public or community facilities are shown to be inadequate and possibility of multi-owner/user has been investigated and is not feasible. Cumulative impacts on water circulation and quality and fish and wildlife must be assessed. New docks, piers and floats must not extend further waterward than 90 feet for single-use and 110 feet for shared use. New docks, piers and floats must have a maximum width of four feet. Existing docks, piers and floats may be replaced or reconstructed to the existing dimensions provided they include measures that increase light transmission, maximize the height of piers above water surface, reduce the overall number or size of piles, and enhance shoreline vegetation. Design standards must be met to limit impacts. For docks, piers and floats facing the canal in Sandy Hook and Lagoon Point, design standards must be consistent with an approved master plan. Prior to adoption of master plan, interim standards apply li	
				Restoration See aquatic opportunities	

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High Intensity					
Summary of Conditions:	PSNERP Degradation Scores:	Vacant lands: 0 ac (0%)	Water Quality: Extensive impervious cover with	Protection Allowed uses and modifications:	No Cumulative Impacts
There is one High Intensity area on the West Whidbey shoreline, Coupeville Ferry Facility in Keystone Harbor on Admiralty Inlet. The	No degradation: 0%	Subdividable lands: 0 ac (0%)	potential of contamination	Residential Uses: Single-family uses, accessory structures, accessory	No cumulative
ferry facility is at the southern end of a long drift cell with a southward	Least degraded: 0%	Potential residential units: 0	from hydrocarbons.	beach access structures on private lots, and subdivisions (CUP) <u>Commercial Uses:</u> Water-oriented commercial, non-water-oriented	impacts due to
drift, and at the mouth of Crocket Lake, a coastal lagoon.	Less degraded: 100%		Water and Sediment	commercial if part of a mixed-use development with a water-dependent	limited area, and
Nearshore aquatic habitats and associated coastal lagoons support a broad assemblage of fish and wildlife species including forage fish	Moderately degraded: 0%		Movement: Extensive overwater structures with	use Industrial Uses: Port facilities, water-oriented industry, and log storage	already altered ecological functions
populations and habitat for anadromous salmon. Marine nearshore	More degraded: 0%		many piers, dolphins, and high	(CUP)	in that area. Should
areas are probably utilized for rearing and as migratory corridors for	High Intensity shoreline area at		velocity prop wash disturb sediments and aquatic plants.	Boating and Related Facilities: Boat launches, private and public piers, floats and docks, float plane bases and docks, and marinas	redevelopment of
anadromous salmonids. The entire nearshore extent of the Whidbey's shorelines is designated as Critical Habitat for Chinook salmon. The	Keystone Harbor is highly altered		Habitat: Moderate risk.	Scientific, educational, historic, or archaeological uses: Water-oriented	the ferry terminal or other uses occur,
area is also mapped for Pigeon Guillemot nesting and a rare plant,	by existing water dependent development, including armoring,		Aquatic habitats threatened by	and non-water-related uses	establishment of
Indian Paintbrush.	overwater structures, and		water quality degradation – associated with accidental	Resource Management and Extraction: Aquaculture on-land activities/structures/processing, aquaculture in-water, including	shoreline buffer for
There is significant modification associated with the Coupeville Ferry	associated shoreland modifications		spills, stormwater, illegal	mechanical or hydraulic harvest of shellfish and forest practices (CUP)	non-water-related
Facility in Keystone Harbor, including modification of connection between marine shoreline and Crockett Lake; riprap armoring fronting	(parking facilities, maintenance and operations facilities) associated		dumping – common sources	<u>Transportation</u> : Parking lots, ferry terminals, new and existing vehicular	portions of the use would improve
terminal facility; major boat launch facility immediately east of the ferry	with Washington State Ferries		of contamination from high intensity boating facility uses.	routes and facilities, bridges, and culverts Utilities: All types (CUP)	riparian habitat.
terminal; and groins/breakwaters at entrance to Keystone Harbor.	Terminal and the surrounding public access / public recreation		Shoreline Vegetation: Low	Recreational Uses: Campgrounds, scenic overlooks and RV parks (i.e.,	F 22 22 22 22 22 22 22 22 22 22 22 22 22
Indicators:	development.		risk. Existing highly altered	private); undeveloped natural reserves/parks, unpaved non-vehicular trails and paths, passive recreation, and public parks,	
Armoring (% of shoreline): 0.2 mi (27%)	·		conditions limit potential for	Tourist Accommodations: Hotels, motels, and inns	
Eelgrass: None mapped			additional future loss of shoreline or aquatic	Breakwaters (CUP) Shoreline stabilization: Structural and non-structural and shoreline	
Culverts: 1			vegetation.	restoration/beach enhancement	
Coastal Floodplain: 10 ac (62%)			Hydrology (Water Quantity):	Dikes	
Forest Cover: 2 ac (12%)			Low risk. Existing highly	Grading Dredging	
Impervious: 2 ac (12%)			altered conditions limit potential for additional future	Groins and jetties for restoration or enhancement of natural resources,	
Overwater Structures: 3			impairment; major	as part of an approved marina, or for navigational purposes (CUP)	
WDFW PHS – Priority Bird Species: None mapped			redevelopment of ferries, boatyard, or marina unlikely,	Dolphins for water-dependent use	
Protected Lands: 16 ac (100%; WA state ferry terminal property)			but minor expansions are	Prohibited uses and modifications:	
Riparian Vegetation: 85% (based on 2011 aerial analysis there are intact riparian vegetation areas landward of Fort Casey State Park			possible. Any major redevelopment of facilities	Residential Uses: Mobile home parks, accessory dwelling units, multi- family uses, floating homes, and floating homes and houseboats	
access road and unconsolidated shore)			may provide opportunity to	Commercial Uses: Non-water-oriented commercial (except as	
Road Lengths: 0.1 mi			improve hydrologic functions	permitted above) Industrial Uses: Non-water-dependent industry	
Wetlands: 0.1 ac (0.4%)			through implementation of mitigation requirements.	Boating and Related Facilities: Mooring buoys	
Reaches:			ganooqaoo.	Resource Management and Extraction: Low intensity agriculture and mining	
Reach 4 (16 acres)				Transportation: Railroads	
				Recreational Uses: Marine campgrounds and marine trails	
				Shoreline buffers, setbacks, maximum impervious surface and	
				critical areas protection:	
				Shoreline Marine Buffer: 30 feet Steep Slope Buffer: 50 feet for slopes greater than 40%	
				Shoreline Setback: 20 feet	
				Maximum Impervious Surface: 80 percent	
				Critical Area Buffers: Landslide Hazard Area or Steep Slope (50-100 foot setback); Streams (50-150 foot buffer); Wetlands (20-300 foot	
				buffer); Nesting sites and territory (200-1000 foot buffers); Washington	
				Natural Heritage Program Areas (50 foot buffers)	
				Additional standards ICC 11.03 (Stormwater and Surface Water) Hydrology	
				ICC 11.03 (Stormwater and Surface Water) <i>Hydrology</i> ICC 17.05A.090A: General Shoreline Development standards limiting	
				alteration of natural drainage features and prohibiting release of solid	
				and liquid waste. Hydrology	

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				ICC 17.05A.100.E: Water-dependent uses allowed only if they demonstrate no net loss. Existing non-water-dependent and non-water-related commercial uses may not expand waterward of existing structures. Legally established existing commercial development may expand without a shoreline variance. Should the existing setback be less than 30 feet from the OHWM, the proposed expansion may not occur seaward, except for water-dependent uses. Vegetation ICC 17.05A.100.G: Water-dependent industrial structures are allowed within required buffers provided mitigation is provided in the form of buffer enhancement (off-site mitigation is allowed). Industrial developments must minimize impacts on aquatic life. Adequate provisions to minimize the probability of spills must be made. Log storage must not be sited where dredging is required. Hydrology, Water Quality, Vegetation and Habitat ICC 17.05A.110.D6 Disposal of dredged material shall be done only in approved upland disposal sites and shall not be allowed within critical areas or their buffers, except as part of an approved ecological restoration or enhancement project. Hydrology, Water Quality, Vegetation and Habitat ICC 17.05A.110.D9 Proposals that cause substrate displacement or that involve substrate modification through dredging, trenching, or digging shall not be slowed in existing kelp or eelgrass beds without an approved mitigation plan. Vegetation and Habitat Restoration Restoration opportunity: WW04 Remove 115 creosote piles old structure in subtidal zone.	